2016 Annual Water Quality Reports
and Performance Report on Water Use Efficiency

Part of the City of Lynnwood Public Works Department's ongoing commitment to enhancing the quality of life in our community by providing high quality water.

This report contains important information about your water. Have someone translate it for you, or speak with someone who understands it.

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

LYNNWOOD
WASHINGTON

CITY OF LYNNWOOD
PUBLIC WORKS DEPARTMENT
19100 44TH AVENUE WEST
LYNNWOOD WA 98036 | 425-670-5200

2016 Annual Water Quality Reports

and Performance Report on Water Use Efficiency

Lynnwood Water Consumers,

The City of Lynnwood is and has always had as a highest priority the health and safety of our citizens. This priority relates directly to our Community Vision which states that we will "build a healthy and sustainable environment". By testing our water regularly, maintaining the system of pipes and reservoirs and meeting or exceeding all state and federal water quality requirements, the City's Public Works Department is committed to providing the highest quality drinking water possible.

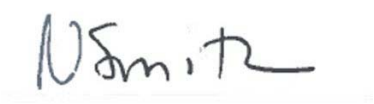
We are pleased to bring you the attached Annual Water Quality Report. In this report you will find information on:

- Our drinking water source
- Regulations and programs that protect the high quality of our water
- 2015 Water Quality Analysis results
- Other helpful information and resources from the Public Works Utility Department

The Public Works Department's dedicated staff works hard to continually look for ways to improve our utility service and products. On May 11, 2016 we will be having a city wide Open House and as part of this we encourage all Lynnwood water consumers to stop by our table and give us your feedback on our water service.

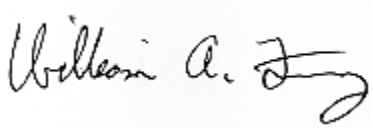
We encourage you to contact Paul McIntyre, Utility Supervisor, at 425-670-5241 with any questions, comments or suggestions.

Sincerely,
CITY OF LYNNWOOD



Nicola Smith
Mayor

Sincerely,
CITY OF LYNNWOOD



William Franz
Public Works Director

LYNNWOOD WASHINGTON
PUBLIC WORKS

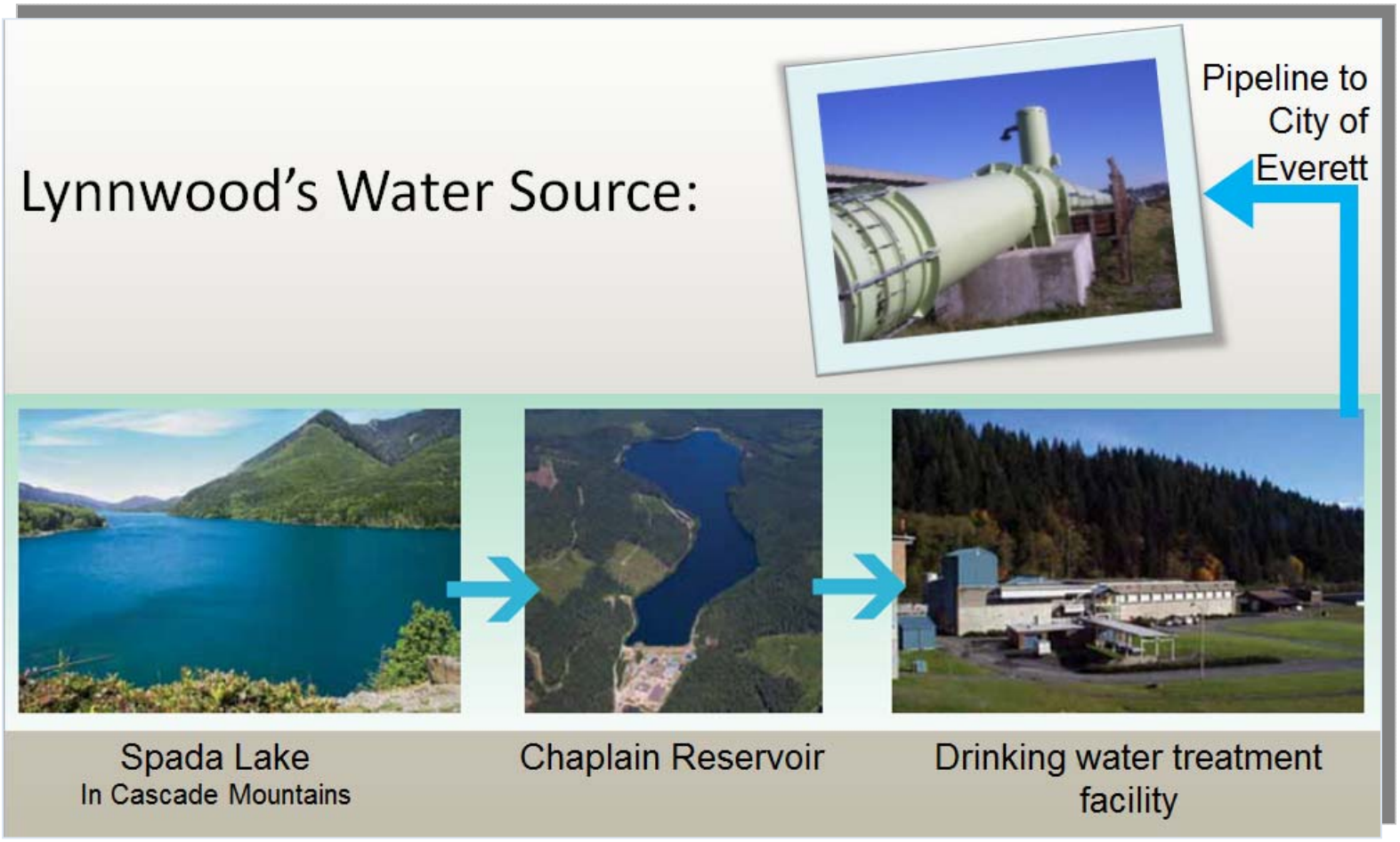
Drinking Water Source

Your drinking water comes from the City of Everett's Spada Lake Reservoir, which is located at the headwaters of the Sultan River and the Sultan Basin Watershed. Created in 1965 by the construction of Culmback Dam, Spada Lake Reservoir holds about 50 billion gallons of water. A watershed is a geographic area where all the precipitation drains into one body of water. In the Sultan Basin Watershed, rain and snowmelt flows from the Cascade Mountains into creeks and streams that drain into Spada Lake Reservoir.

The Sultan Basin Watershed covers an area of 84 square miles of mountainous terrain and is one of the wettest watersheds on the west side of the Cascade Mountains. The annual rainfall of 165 inches is just a few inches less than the Hoh Rain Forest on the Olympic Peninsula.

From Spada Lake Reservoir, the water flows through a tunnel and pipeline to Chaplain Reservoir where it is held in preparation for treatment at the nearby City of Everett Treatment Plant. Chaplain Reservoir is a small lake located about 7 miles downstream from Spada Lake Reservoir and holds about 4.5 billion gallons of water.

After treatment, your drinking water is pumped to Alderwood Water District facilities in South Everett. The District transports the drinking water to reservoirs just north of Lynnwood. The Lynnwood distribution system is supplied from these reservoirs.



LYNNWOOD WASHINGTON PUBLIC WORKS

2015 Water Quality Analysis Results

Definitions listed at end of document

			EPA Regulations		Everett Water Results		
Parameter	**Major Source**	**Units**	**Ideal Level/ Goal (MCLG)**	**Maximum Allowable (MCL)**	**Range or Other**	**Average Value or Highest Result**	**Comply?**
Total Coliform Bacteria	Naturally present in the environment	% Positive	0	5% Positive per Month	None	0%	Yes
Total coliform bacteria monitoring is used to track microbial quality in the water distribution system. Everett collects 120-125 samples per month. Not more than 5 percent of the monthly total can be positive for total coliforms. No total coliforms were detected in 2015.							
Fluoride	Dental health additive	ppm	2	4	0.6–0.9	0.8	Yes
Fluoride is added in carefully controlled levels for dental health. In January 2011, the US Department of Health and Human Services (HHS) released a proposal to reduce the recommended drinking water fluoride concentration target to a single national standard of 0.7 ppm based on recent research on changed fluoride and water consumption patterns in the U.S. This recommendation has not been made final in Washington State, but in 2011 Everett and other water systems in Washington reduced the target fluoride residual in their drinking water from 1.0 ppm to 0.8 ppm. 0.8 ppm is the lowest level allowed under current State regulations. The Washington State Board of Health is expected to adopt 0.7 ppm as the new standard. At that time, the Washington State Department will change the requirements and water systems will begin adjusting fluoride levels to the new recommended level.							
Residual Disinfectant Level (free chlorine)	Added as a drinking water disinfectant	ppm	4.0 MRDLG	4.0 MRDL	0.1 – 1.0	0.6	Yes
Haloacetic Acids (5) (HAA5)	By-product of drinking water chlorination	ppb	N/A	60	20.0–40.0*	37.0**	Yes
Total Trihalomethanes (TTHM)	By-product of drinking water chlorination	ppb	N/A	80	26.0-60.0*	50.0**	Yes
Haloacetic acids and trihalomethanes form as by-products of the chlorination process that is used to kill or inactivate disease-causing microbes. The TTHM and HAA5 results are from the eight locations in Everett which are monitored to determine compliance with current regulations. * = range of results taken from all eight locations. ** = highest locational running annual average of the eight sites that were monitored.							
Turbidity	Soil erosion	NTU	N/A	TT	100%	0.06	Yes
Turbidity is a measure of the amount of particulates in water in Nephelometric Turbidity Units (NTU). Particulates in water can include bacteria, viruses and protozoans that can cause disease. Turbidity measurements are used to determine the effectiveness of the treatment processes used to remove these particulates. The values reported are the lowest monthly percentage of samples that met the EPA turbidity limit and the highest single filtered water turbidity measurement obtained during the year. In 2015, no filtered water turbidity results were above the EPA 0.3 NTU limit so the lowest percentage was 100%. The plant targets production of filter water turbidities of 0.10 NTU or less.							

The Following Information is Voluntary and Describes Additional Characteristics of Your Drinking Water

Parameter	Units	Ideal Level/Goal (MCLG)	Everett Water Results	
			Range Detected	Average Value
Bromodichloromethane	ppb	0	1.1-3.0	1.9
Chloroform (trichloromethane)	ppb	70	25.0-57.0	40.0
Dichloroacetic Acid	ppb	0	2.0-15.0	9.0
Trichloroacetic Acid	ppb	20	17.0-27.0	21.0

These substances are individual disinfection by-products for which no MCL standard has been set, but which must be monitored to determine compliance with the USEPA Stage 2 Disinfection By-products Rule MCL's for Total Trihalomethanes and Haloacetic Acids (5).

Parameter	Major Source	Units*	EPA Regulations		Everett Water Results		
			Ideal Level/ Goal (MCLG)	Action Level (AL)	90th % Level	Homes Exceeding the AL	Comply ?
Copper	Plumbing, erosion of natural deposits	ppm	1.3	1.3	0.122	0 of 108 (0.0%)	Yes
Lead	Plumbing, erosion of natural deposits	ppb	0	15	2	0 of 108 (0.0%)	Yes

USEPA and state regulations require water systems to monitor for the presence of lead and copper at household taps every three years. Everett and many of the systems it supplies conduct lead and copper monitoring in their combined service area as a regional group. The above data was collected in 2015. The 90th% level is the highest result obtained in 90 percent of the samples collected when the results are ranked in order from lowest to highest. In the past, the results for water tested before it enters household plumbing were even lower than the tap results. This indicates that there is virtually no lead or copper in the water, but household plumbing may contribute to the presence of lead and copper at the tap.

pH	Soda ash is added to reduce water corrosivity by increasing pH and alkalinity	s.u.	Daily Avg. 7.6	Min Daily Avg. 7.4	Average 7.6	Minimum 7.4	Yes

The Washington State Dept of Health requires Everett to operate the corrosion control treatment program at or above a minimum daily average pH of 7.4. The pH is measured six times per day and the average daily pH cannot be below 7.4 for more than nine days every six months. In 2015, the average daily pH never dropped below 7.4.

USEPA required lead statement. The USEPA drinking water regulations require this statement be included with the lead and copper sampling results regardless of the levels observed:
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Everett Utilities Division is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

Parameter	Units*	Everett Water Results	
		Range Detected	Average Value
Alkalinity[1]	ppm	12.8–21.6	16.6
Aluminum[1]	ppm	0.01–0.09	0.02
Arsenic[2]	ppb	<0.1–0.3	0.2
Calcium Hardness[1]	ppm[3]	7.4–12.4	9.6
pH[1]	s.u.	7.5–9.1	7.9
Sodium[2]	ppm	5.5–6.7	6.1
Total Hardness[1]	ppm[3]	9.9–14.8	12.0

1 Results are from samples collected from 26 locations in Everett's distribution system.
2 Hardness and alkalinity units are in ppm as $CaCO_3$ (calcium carbonate equivalent units).
3 Arsenic and Sodium were monitored at the treatment plant effluent.

*Definitions listed at end of document

Potential Health Effects

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants can be obtained by calling the EPA's Hotline (1.800.426.4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lesson the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1.800.426.4791).

Other Information

Cryptosporidium - Cryptosporidium is a one-celled intestinal parasite that if ingested may cause diarrhea, fever, and other gastrointestinal distress. It can be found in all of Washington's rivers, streams, and lakes and comes from animal or human wastes deposited in the watershed. Cryptosporidium is resistant to chlorine, but is removed by effective filtration and sedimentation treatment such as that used by Everett. It can also be inactivated by certain types of alternate disinfection processes such as ozonation and UV light contactors. Past monitoring results suggest that Cryptosporidium is present in Everett's source only occasionally and at very low concentrations. In 2015, Everett collected monthly Cryptosporidium oocysts samples from the source water at the plant intakes. No oocysts were detected.

Treatment Polymers - During water treatment, organic polymer coagulants are added to improve the coagulation and filtration processes that remove particulates from water. The particulates that are removed can include viruses, bacteria and other disease causing organisms. The USEPA sets limits on the type and amount of polymer that a water system can add to the water. In addition to the EPA limits,

the State of Washington requires that all polymers used be certified safe for potable water use by an independent testing organization (NSF International). During treatment, Everett adds only NSF approved polymers and the levels used are far below the safe limits set by the USEPA.

Arsenic - Considerable media attention has been focused on arsenic in drinking water. After extensive review of the health effects data, EPA has established an MCL for arsenic of 10 ppb. Over the past year, the City has tested your drinking water for the presence of arsenic on a regular basis and none was detected.

Trihalomethanes - Some studies have suggested that levels of Trihalomethanes (THMs) above the EPA standard of 80 ppb may be a concern for pregnant women. THMs are a by-product of the drinking water chlorination process used to kill disease-causing organisms. In 2002, a report issued by Environmental Working Group and the U.S. Public Interest Research Group listed all water systems in the United States that have, or currently provide, water exceeding the 80 ppb standard. The City of Everett is not on that list. Over the fifteen years the City has been monitoring THM's, the levels have been significantly below the EPA threshold.

Reading the Data Tables

Definitions:

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available water treatment technology.

Maximum Residual Disinfectant Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Treatment Polymers - During water treatment, polymer coagulants are added to improve coagulation and filtration that remove particulates from water. The particulates that are removed can include viruses, bacteria and other disease causing organisms. The USEPA sets limits on the type and amount of polymer that a water system can add to the water. In addition to the EPA limits, the State of Washington also requires that all polymers used be certified safe for potable water use by an independent testing organization (NSF International). During treatment, Everett adds only NSF approved polymers and the levels used are far below the safe limits set by USEPA.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Action Level (AL) – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.

Parts per Million (ppm)/ Parts per Billion (ppb) – A part per million means that one part of a particular contaminant is present for every million parts of water. Similarly, parts per billion indicate the amount of a contaminant per billion parts of water.

Not Applicable (N/A) – Means EPA has not established MCLGs for these substances.

The EPA or State of Washington does not require the data in the voluntary monitoring table. This information describes additional characteristics of your water and may be useful for some people.

To Get Involved

There are several ways you can get involved in water quality issues. You can communicate with elected officials, participate in public hearings and attend City Council meetings. Check our website at www.ci.lynnwood.wa.us for information on public meetings regarding water quality, water policies and other issues, or call us at 425.670.5241.

Mainline and Dead End Flushing

You may see Public Works crews in your neighborhood flushing water lines. This is necessary to maximize water quality by preventing stagnant water and naturally occurring sediments from accumulating in the system. Ideally a system of water mains is designed in a pattern of interconnecting loops. This allows water to flow freely throughout the system as demand occurs. Because of geography and how streets and neighborhoods lie, the water system also contains dead end mains. These locations are where water can become stagnant in times of low flow. It is necessary to periodically flush the water out of the dead end mains through a fire hydrant. Flushing helps keep your water quality high and minimizes the chance of taste or odor problems.

Water Conservation

Metering Water Consumption

Metering tells us how much water we buy and sell to our customers. Your utilities department measures all the water it uses for maintenance as well as monitoring the meters to set a base line for water loss in the water distribution system. By using this information, we can fundamentally develop a data base for a useful Water Use Efficiency program.

Indoor & Outdoor Water Saver Kits

Water is a staple of our existence and using water efficiently needs to be a part of our daily lives, not just when there are government restrictions in place. We have a limited supply of water and we must always use it carefully.

The City of Lynnwood water department offers all of our customers FREE indoor and outdoor water saver kits. We have been providing these kits for eight years and they are very popular. The outdoor kit includes an automatic hose bib shut-off, a multi-function nozzle, a hose repair kit, and a few reduced flow hose washers that can be used with your existing garden supplies. The indoor water saver kits help reduce the flow of water from your showers and faucets. They are easy to install and are very durable.

Using these items contained in the water conservation kit can save the average household of three up to 50,000 gallons of water a year! Install them now to help protect what is rare today and priceless tomorrow! Please stop in and pick up your conservation kit at City Hall, 19100 44th Ave. W.

Summer Yard Watering Calendars

Every year a Summer Yard Watering Calendar is posted on our website or you can stop in and pick up a copy at City Hall, 19100 44th Avenue West.

Leak Detection

One way of saving water is to find and repair leaks in the distribution system. These leaks aren't always obvious and are hard to detect through normal methods. However, we employ a technology that operates on the same radio wave frequencies that the leaks produce. We have had great success with this technology which places our repair crews within a few inches of the leak.

Input from our customers

"We want to hear from you!" This is the motto that is shared by all Public Works employees. We hold several public outreach meetings which are a great way to listen to the concerns of the citizens as well as talk to our council about any ideas you may have for conservation, making the Water Use Efficiency better, and more. We have also advertised and sent out watering calendars to encourage citizens to water their yards every three days to help conserve our precious resource. The Utilities department also has our water loss record available to the public. On average City reports have shown a 14.6% unaccounted water loss per year.

Conservation Billing

We are using a conservation billing system as a way to encourage wise water use. After the base rate is charged, the City of Lynnwood charges more per unit at higher levels of use.

In conclusion

Conservation of our natural resource is a goal we have taken seriously as we developed our Water Use Efficiency to the stringent guidelines of the Lynnwood Water Comprehensive Plan, which forecasts our water needs over a six year period. We also take the opportunity to reevaluate these needs every six years to determine how we are doing in meeting our goals. The Water Comprehensive Plan can be found on our website at www.lynnwood.wa.us.

Resources

City of Lynnwood

City of Lynnwood Public Works	425.670.5200	www.ci.lynnwood.wa.us
Utility Billing	425.670.5170	
Water & Sewer	425.670.5241	
Streets & Stormwater	425.670.5232	
Environmental & Surfacewater	425.670.5207	
Surfacewater Pollution Hotline	425.670.5783	

Other Resources

Alderwood Water & Wastewater	425.743.4605	www.alderwoodwater.com
City of Everett Public Works	425.257.8800	www.ci.everett.wa.us
State Department of Health (DOH)	800.521.0323	www.doh.wa.gov/ehp/dw
EPA Safe Drinking Water Hotline	800.426.4791	www.epa.gov/safewater
EPA WaterSense	866.987.7367	www.epa.gov/watersense
Energy Star		www.energystar.gov
Department of Ecology		www.ecy.wa.gov/programs/wq/wqhome.html
The Value of Water Coalition		www.thevalueofwater.org